

KIC 009026619

Q1-17 DR25 TCE Parameters

| TCE | Run Type | KOI? | Period (Days) | Epoch (BKJD) | Depth (ppm) | Duration (Hours) | MES | SNR | R_{\star} (R_{\odot}) | T_{\star} (K) | R_p (R_{\oplus}) | S_p (S_{\oplus}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|-----|-----|-----------------------------|-----------------|------------------------|------------------------|
| 009026619-01 | OBS | No | 303.401467 | 183.605925 | 636.1 | 5.224 | 8.6 | 7.1 | 0.92 | 5480 | 2.57 | 0.97 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|---|
| 009026619-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 0 | INDIV_TRANS_CHASES_MARSHALL—INCONSISTENT_TRANS—CENT_FEW_DIFFS |

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

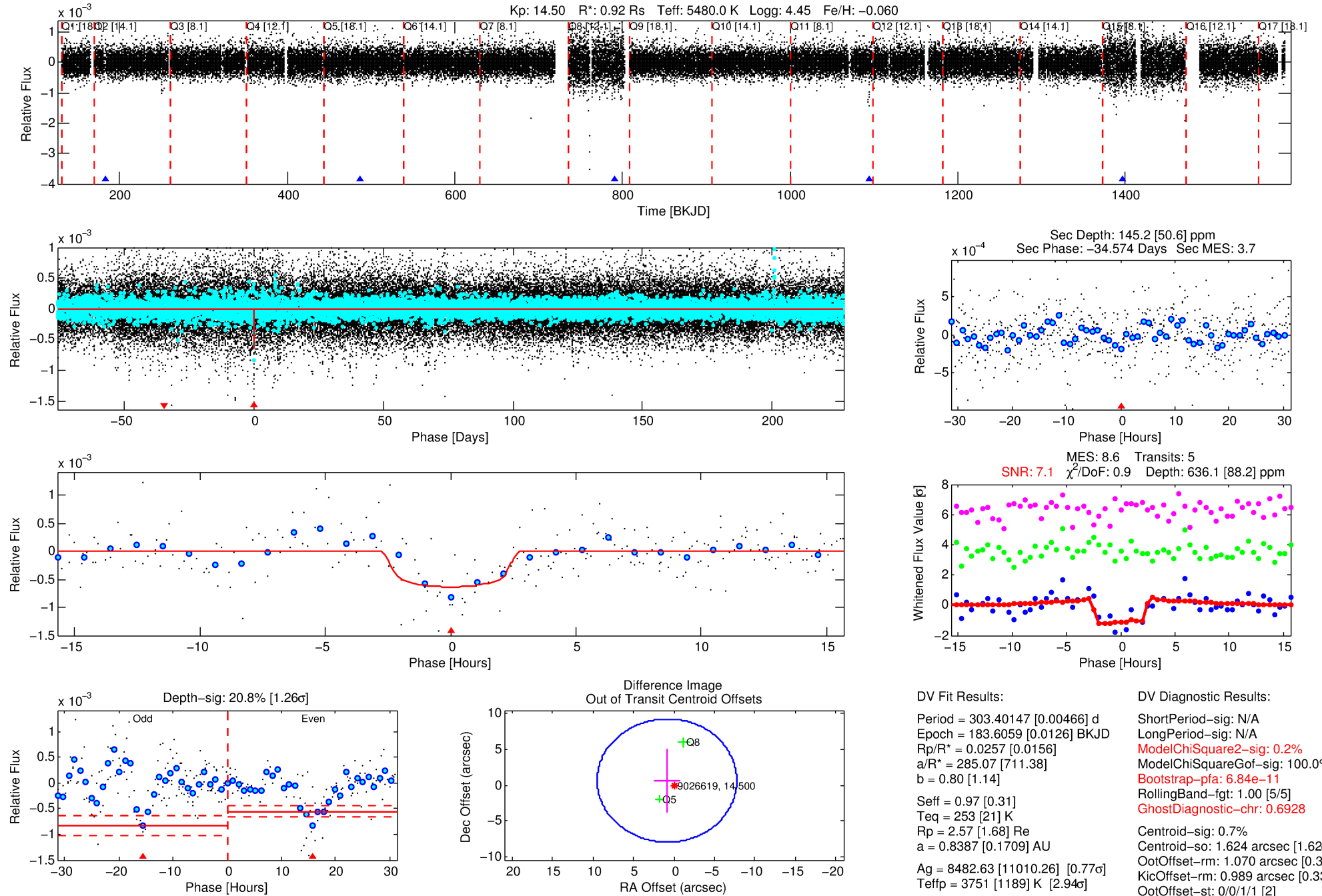
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009026619-01

No Significant Match Found

DV One-Page Summary

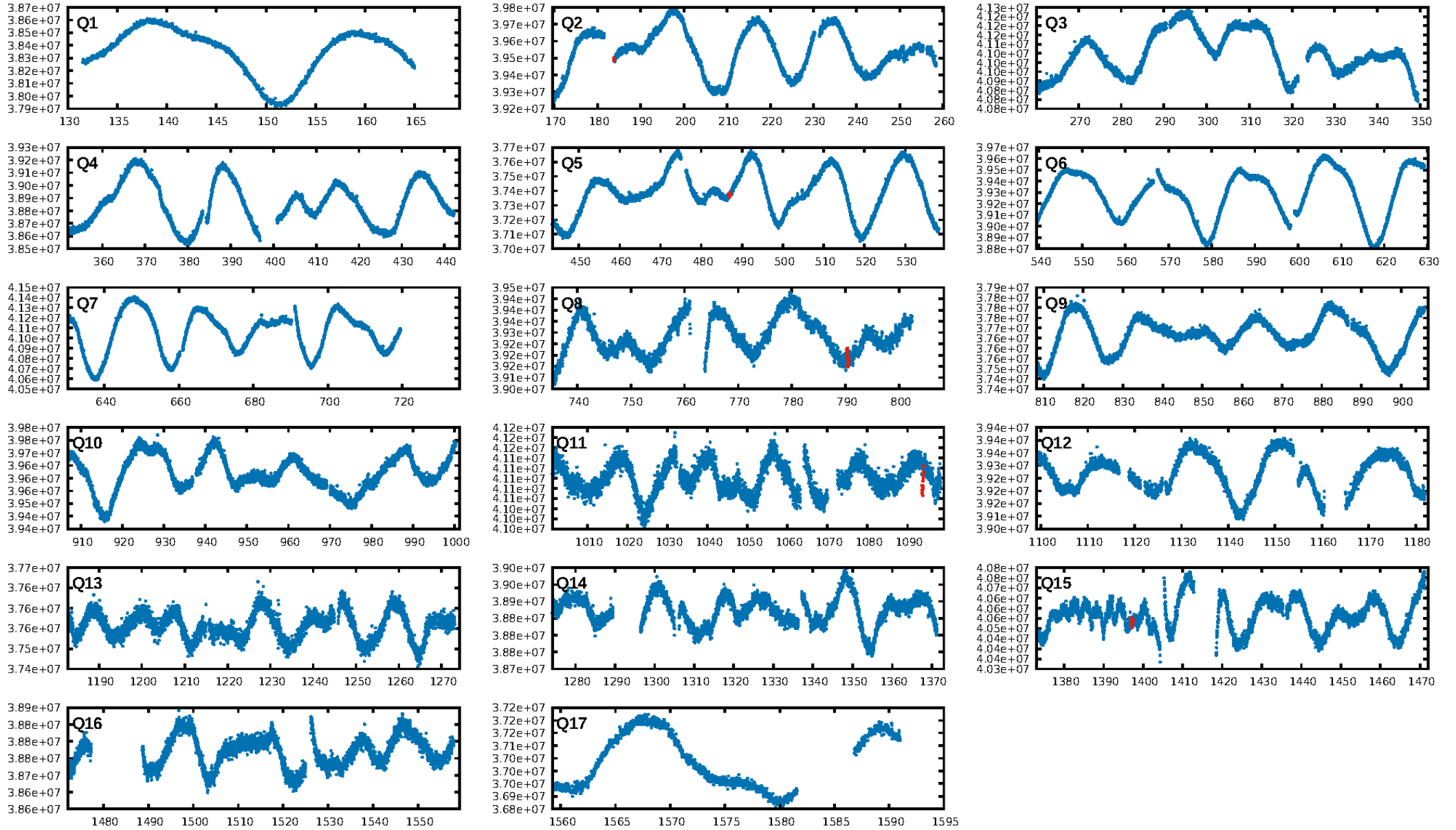
KIC: 9026619 Candidate: 1 of 1 Period: 303.401 d



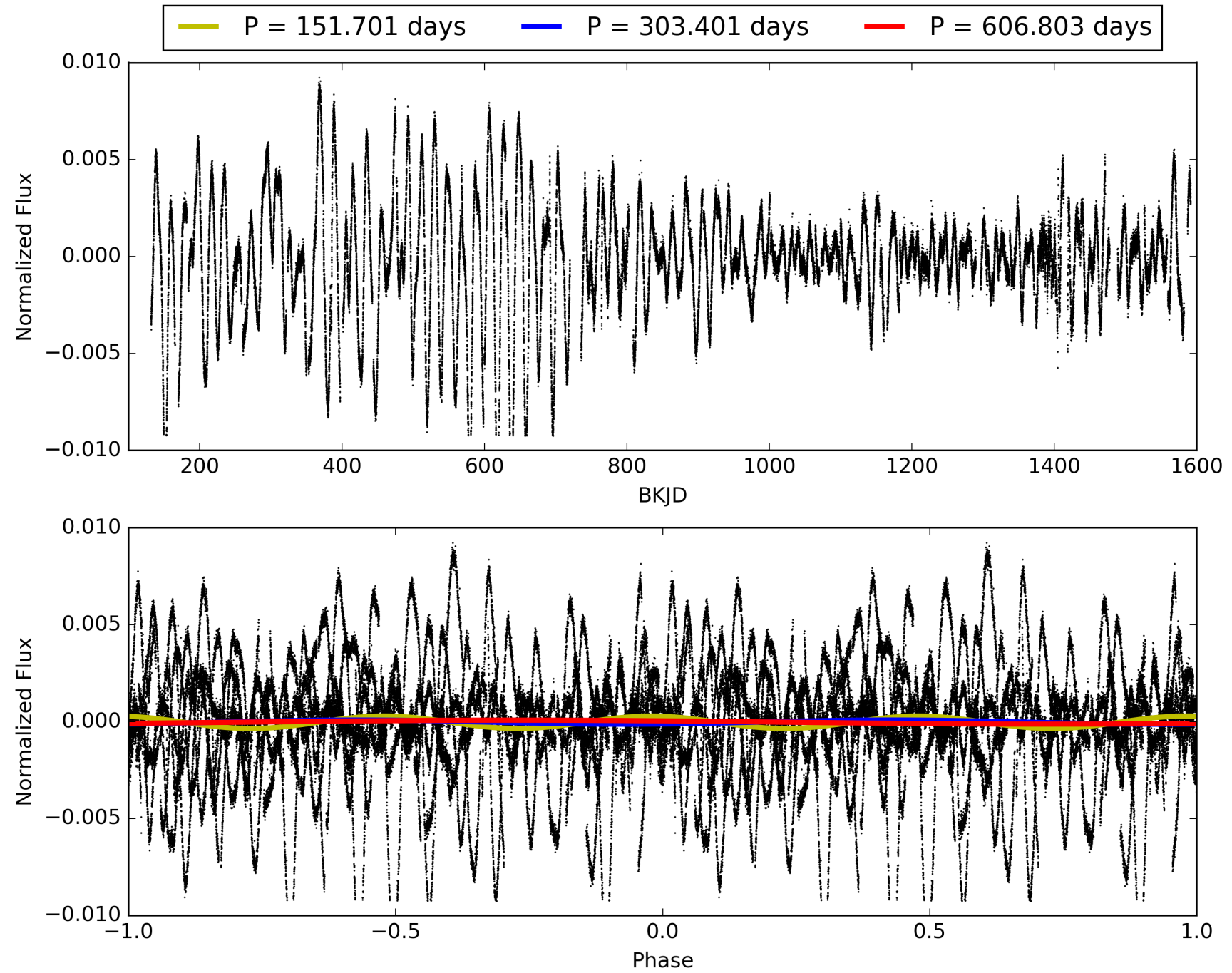
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:19:17 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009026619-01, PDC Light Curves

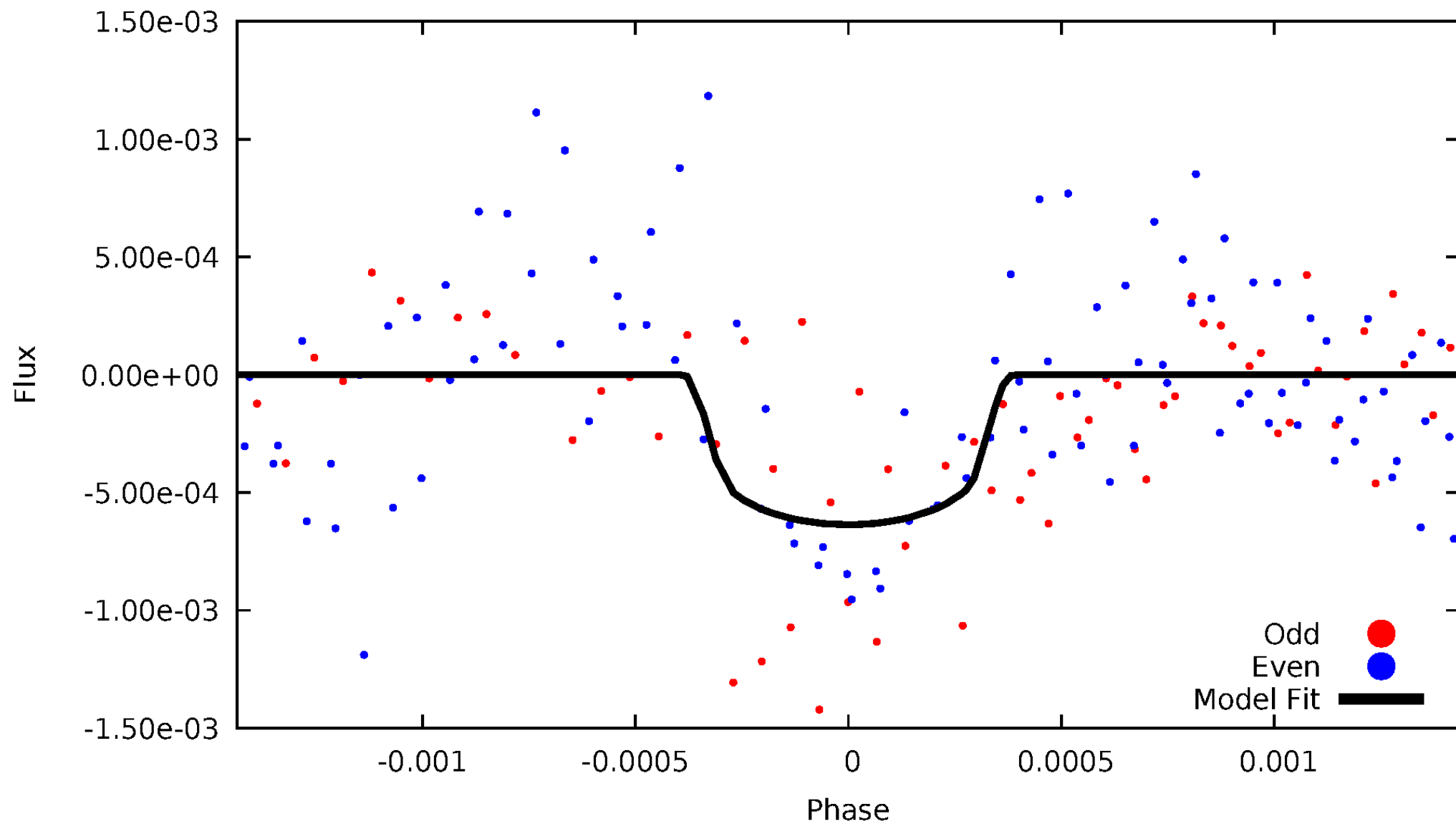


TCE 009026619-01



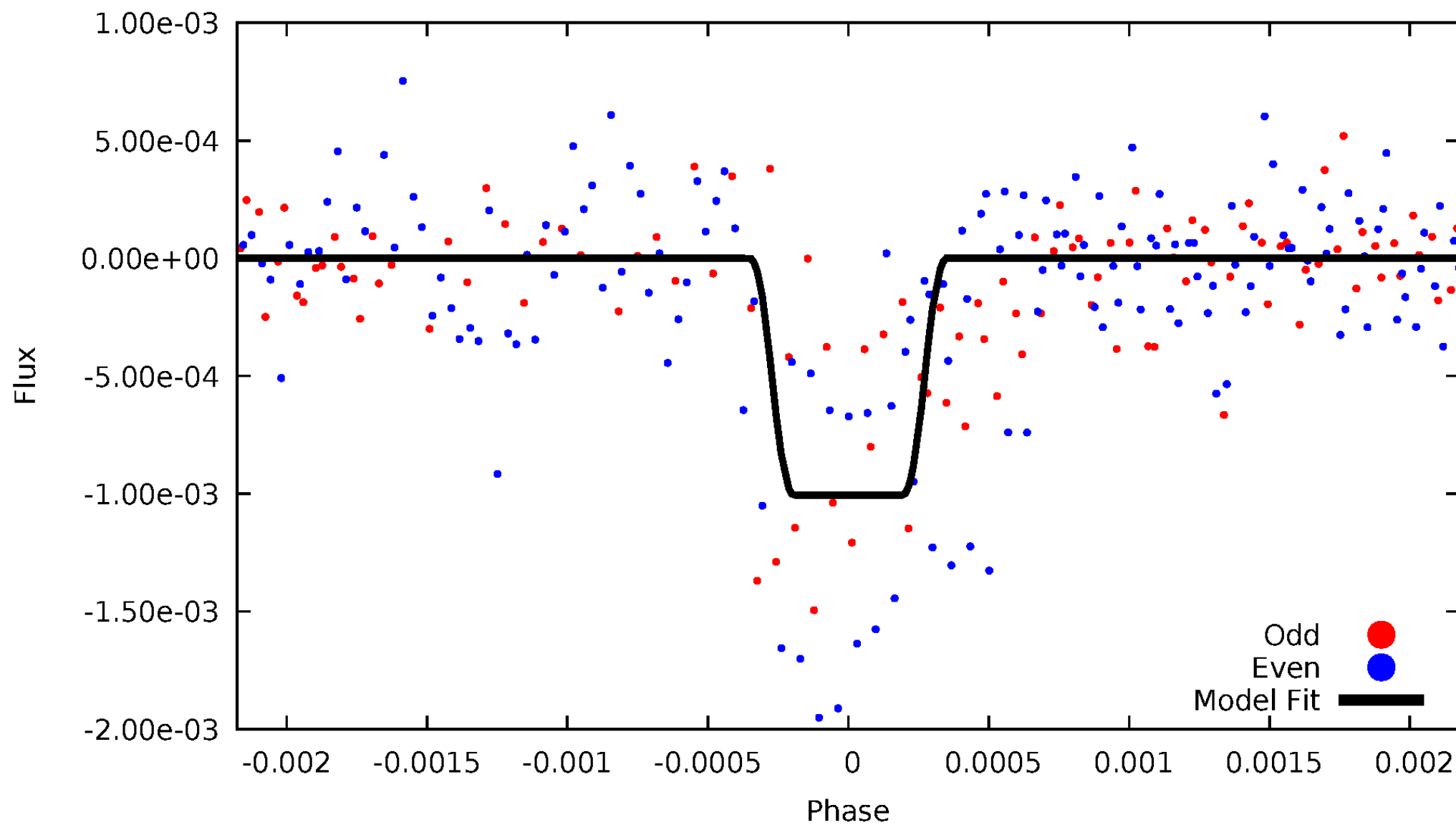
DV Odd/Even

TCE 009026619-01



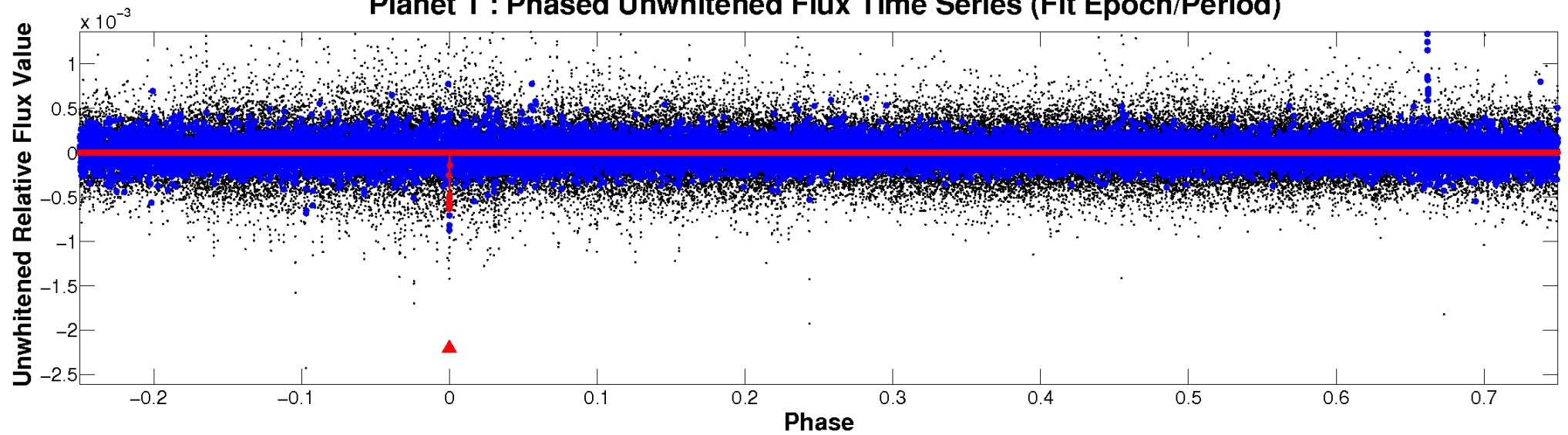
ALT Odd/Even

TCE 009026619-01

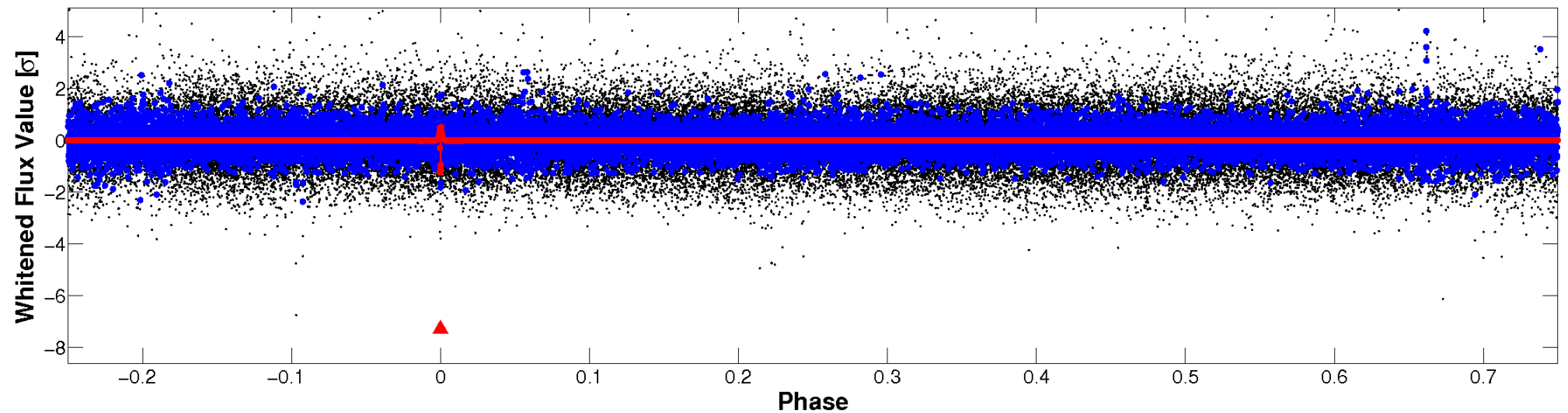


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

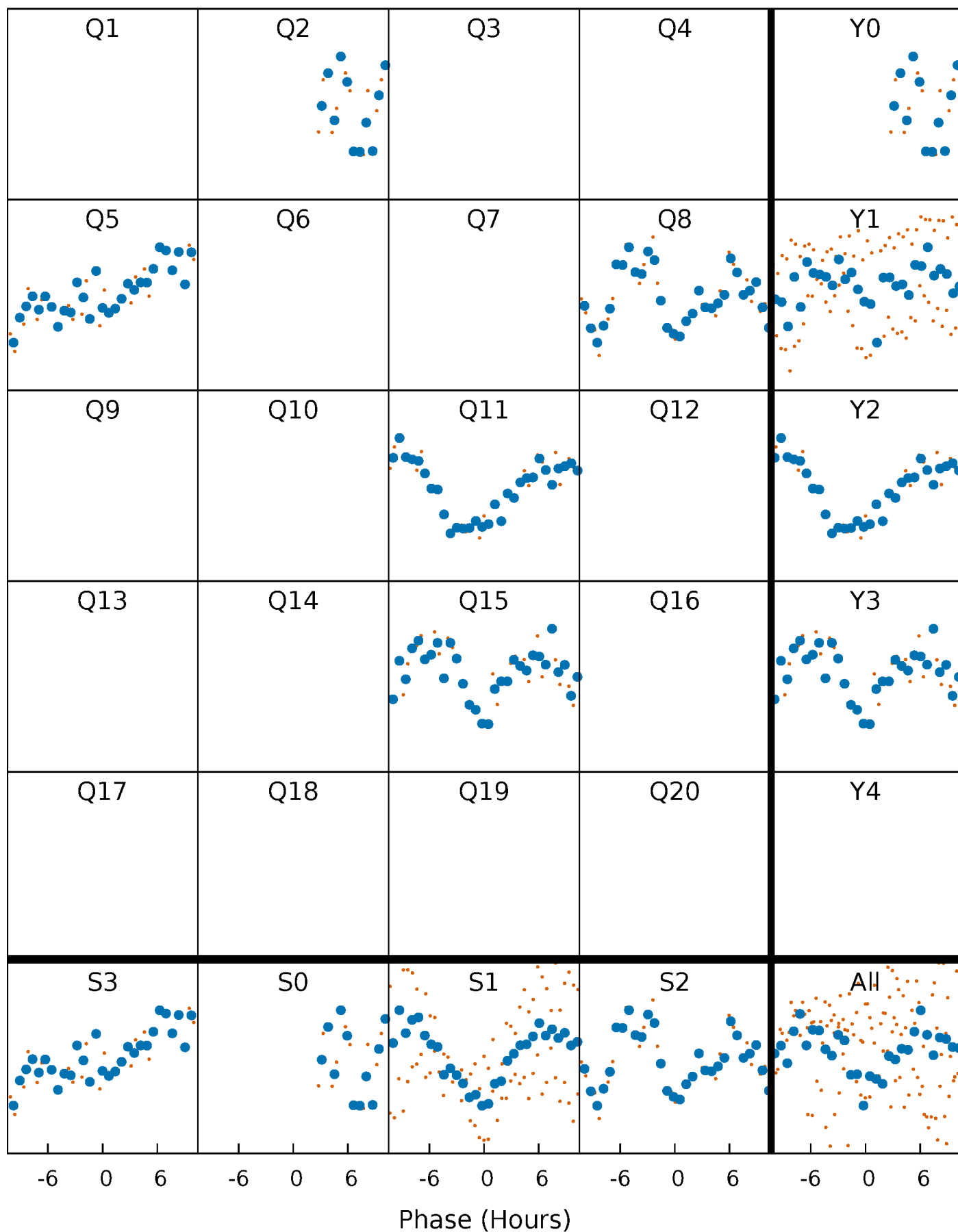


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



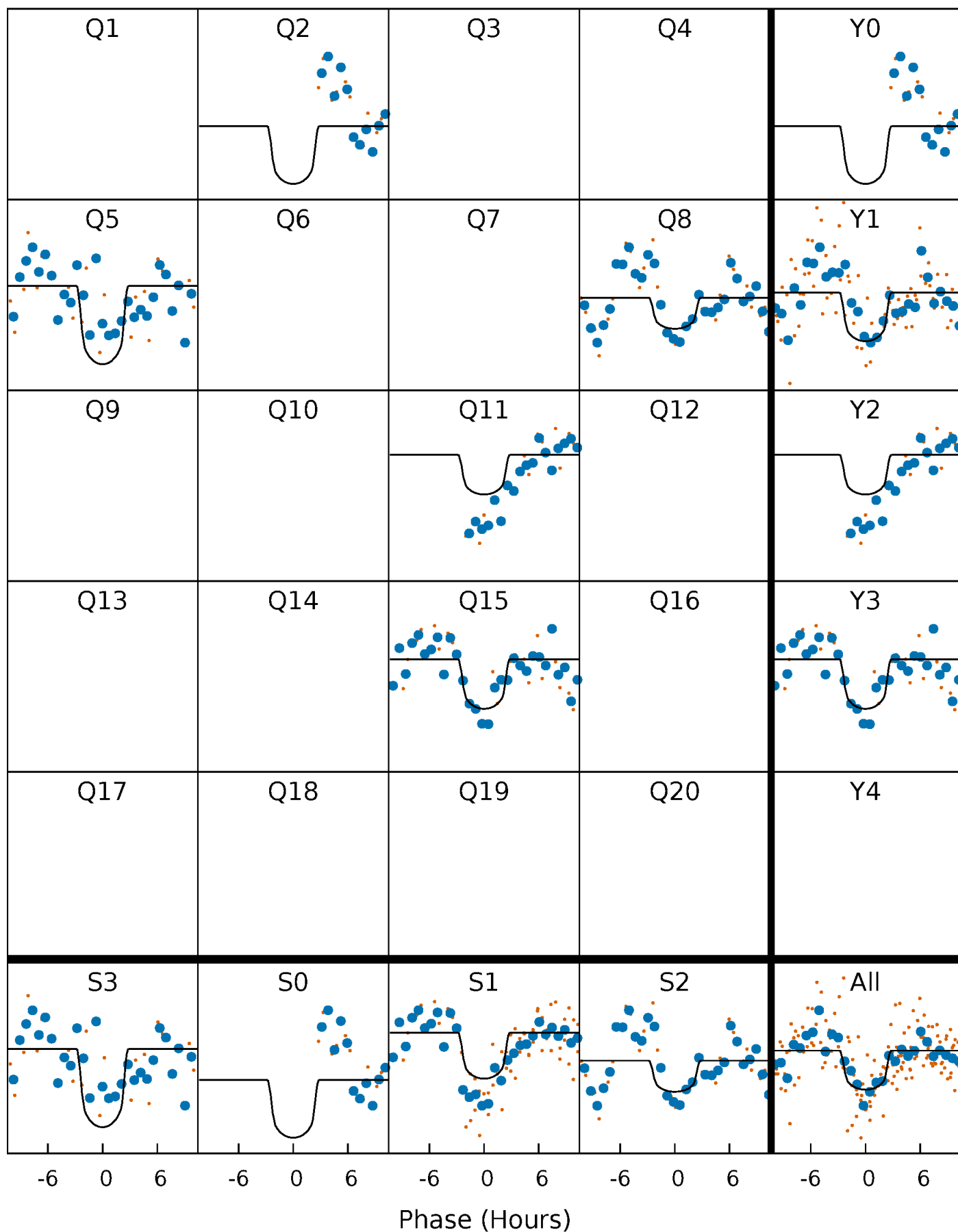
PDC Quarter-Phased Transit Curves

TCE 009026619-01 P=303.401467 Days $T_0=183.605925$ (BKJD)



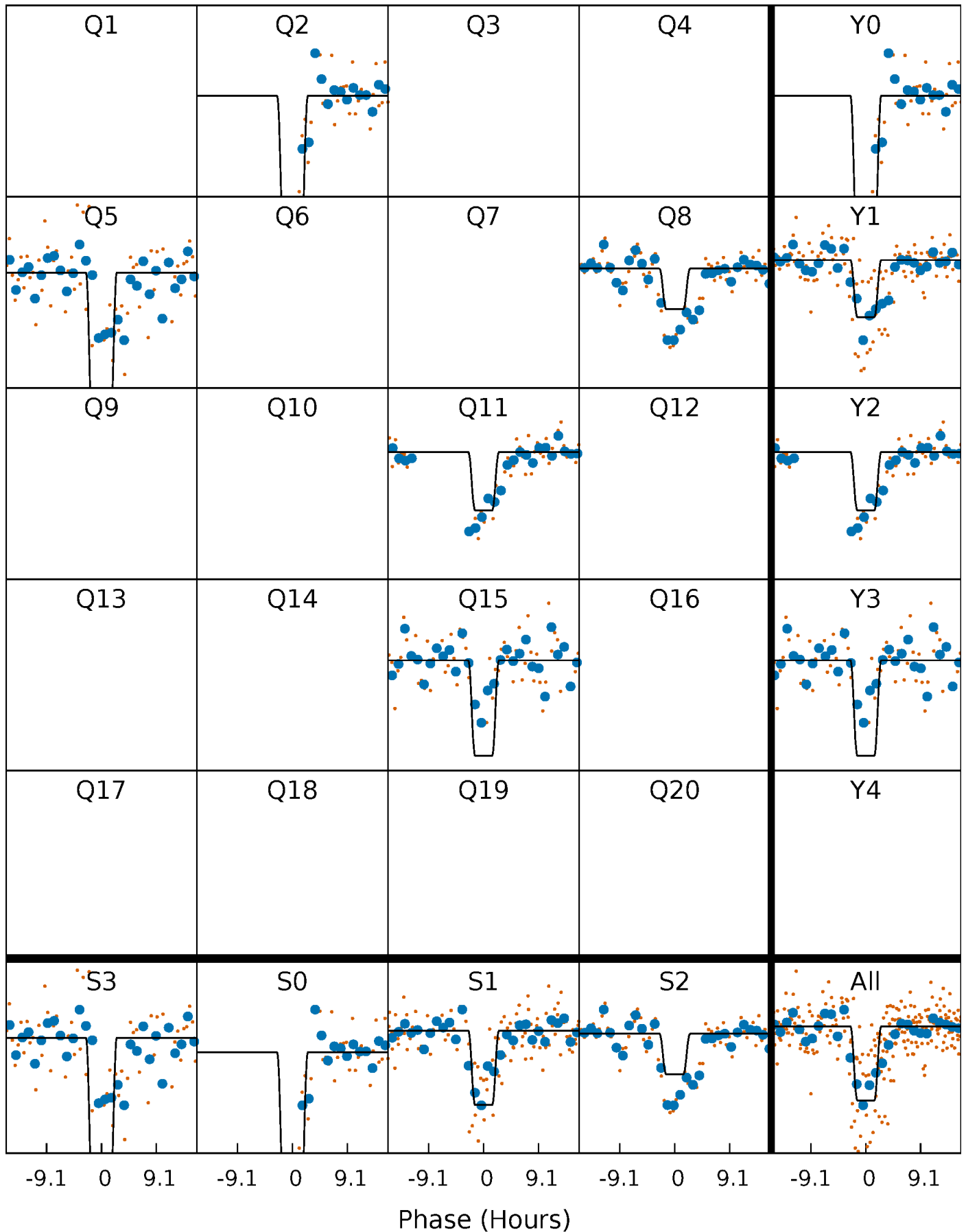
DV Quarter-Phased Transit Curves

TCE 009026619-01 P=303.401467 Days $T_0=183.605925$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

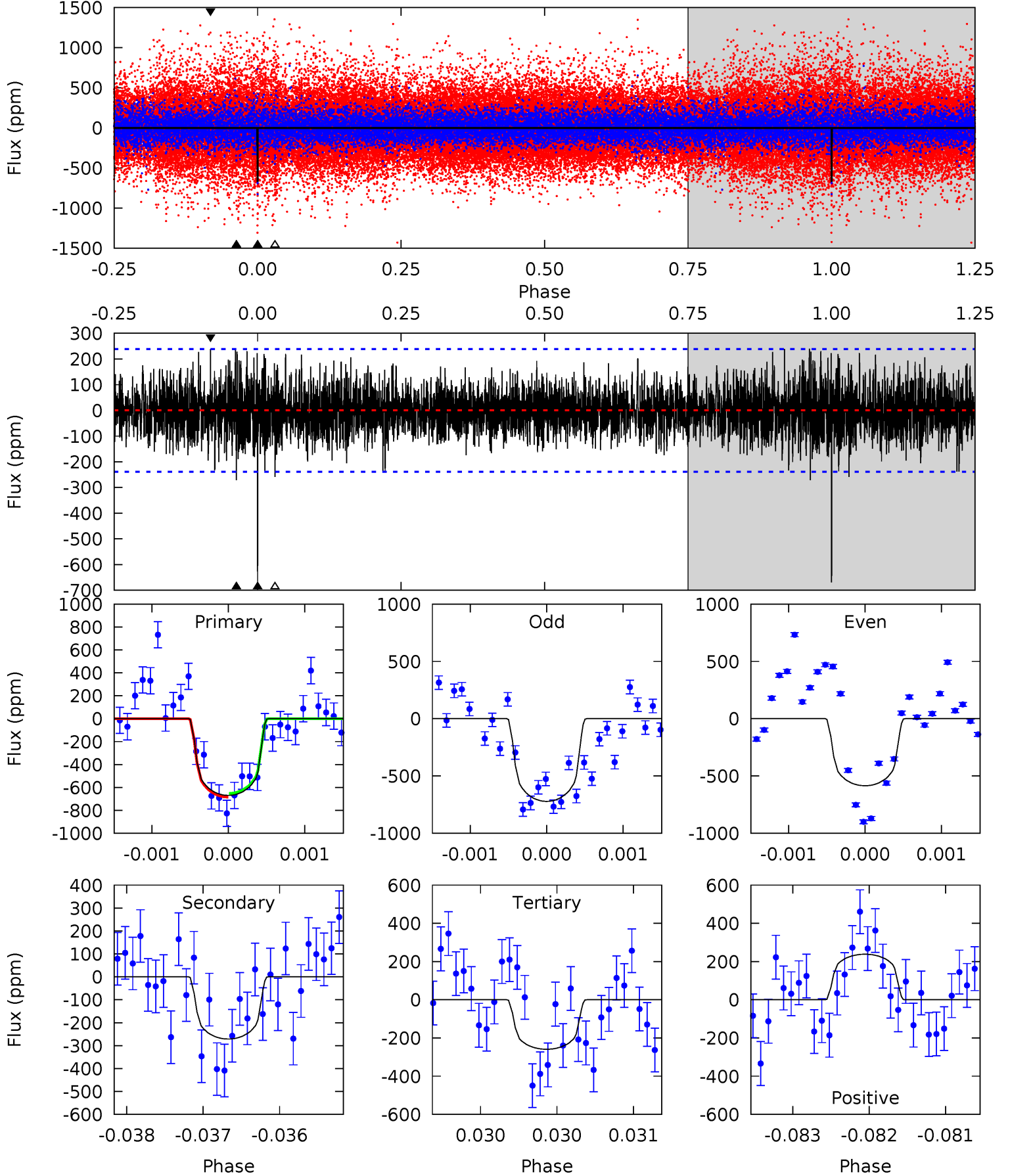
TCE 009026619-01 P=303.383876 Days $T_0=183.675168$ (BKJD)



DV Model-Shift Uniqueness Test

009026619-01, $P = 303.401467$ Days, $E = 183.605925$ Days

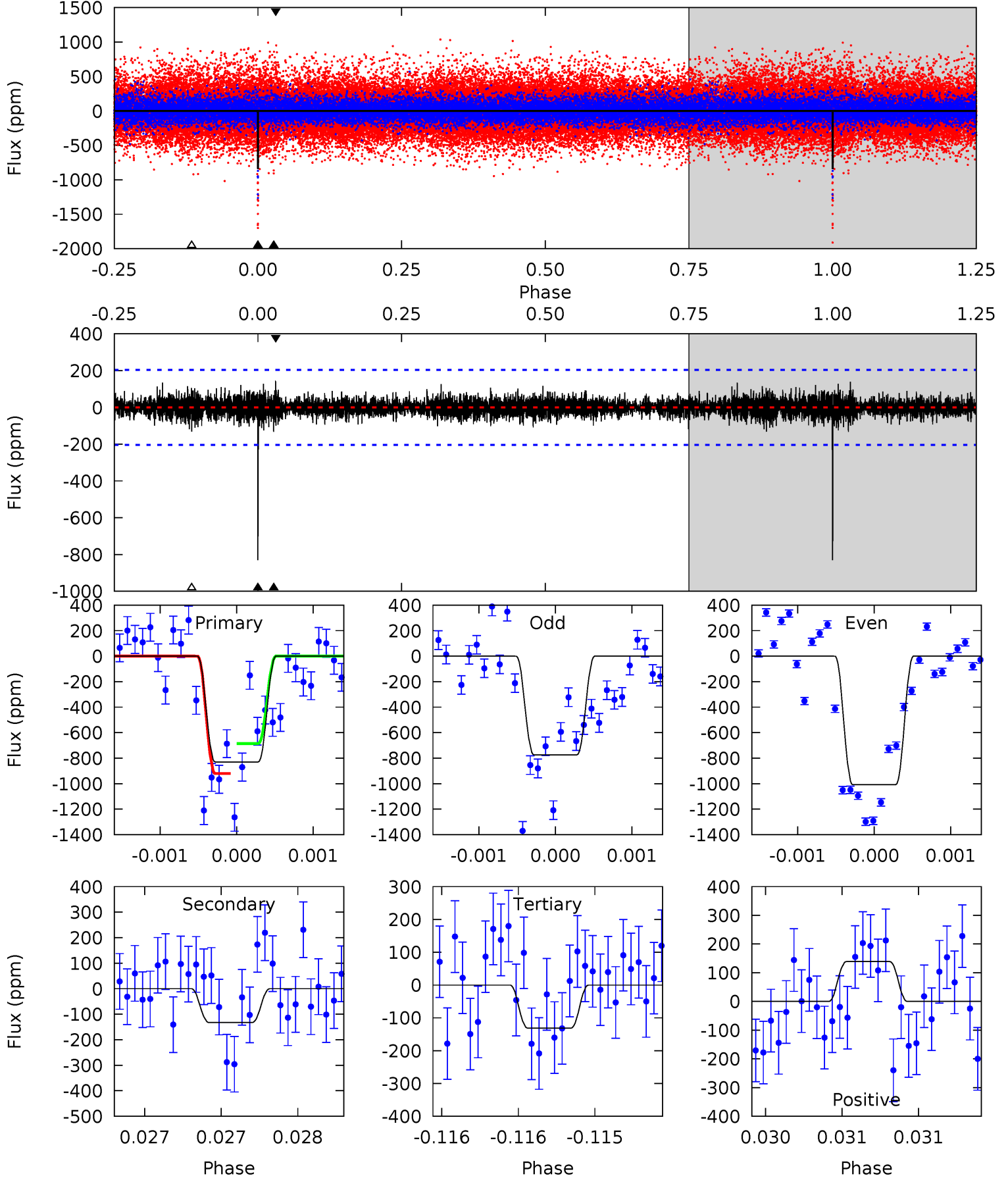
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 15.4 | 6.25 | 5.97 | 5.49 | 5.50 | 3.37 | 1.53 | 9.45 | 9.93 | 0.28 | 0.76 | 1.59 | 1.12 | 0.26 | 0.36 |



Alt Model-Shift Uniqueness Test

009026619-01, P = 303.383876 Days, E = 183.675168 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|------|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|-----|
| 22.5 | 3.59 | 3.55 | 3.77 | 5.52 | 3.40 | 0.82 | 18.9 | 18.7 | 0.04 | -0.17 | 3.25 | 1.78 | 0.14 | 0 |



Stellar Parameters For KIC 009026619

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5480^{+164}_{-164} | $4.445^{+0.112}_{-0.168}$ | $-0.060^{+0.300}_{-0.300}$ | $0.917^{+0.217}_{-0.117}$ | $0.854^{+0.110}_{-0.073}$ | $1.561^{+0.643}_{-0.703}$ |
| | +3%/-3% | +3%/-4% | +500%/-500% | +24%/-13% | +13%/-9% | +41%/-45% |
| Source | PHO1 | KIC0 | KIC0 | DSEP | | |

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009026619-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{max} (K)$ | $T_{obs} (K)$ | A_{obs} |
|---------|---------------|------------------------|-------------------|-----------------------|--------------------------|
| DV | -271 ± 43 | $2.73^{+1.59}_{-1.46}$ | 355^{+23}_{-19} | 4463^{+1940}_{-692} | 13461^{+52319}_{-7962} |
| Alt. | -133 ± 37 | $3.34^{+1.69}_{-1.57}$ | 355^{+24}_{-19} | 3640^{+1008}_{-407} | 4453^{+12759}_{-2442} |

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

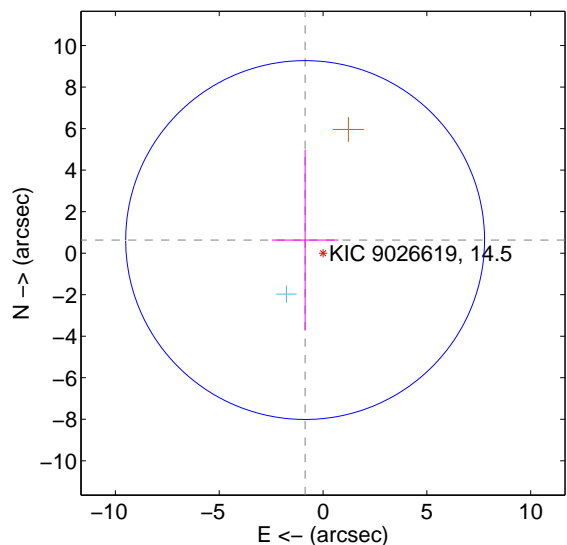
Supplemental centroid analysis for 009026619-01. Kepler magnitude: 14.50. Transit SNR 7.09

There are 1 quarters with good PRF difference image offsets

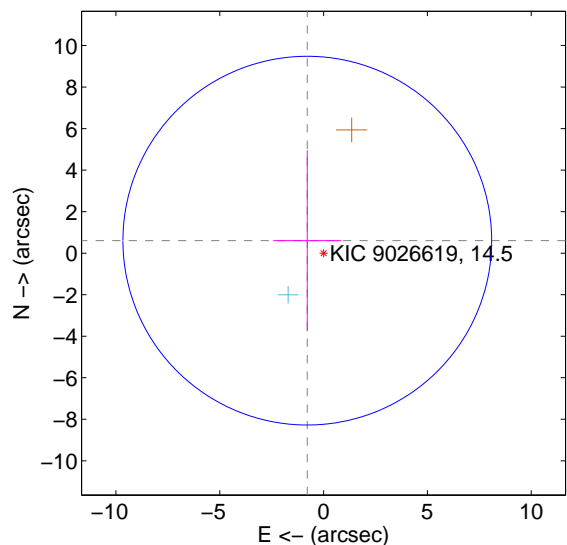
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|-------------------|-------------------|
| PRF-fit source offset from OOT | 1.070 ± 2.881 | 0.37 | 0.862 ± 1.601 | 0.633 ± 4.354 |
| PRF-fit source offset from KIC position | 0.989 ± 2.960 | 0.33 | 0.784 ± 1.643 | 0.603 ± 4.360 |
| photometric centroid source offset | 1.62 ± 1.01 | 1.62 | 0.26 ± 1.08 | 1.60 ± 1.00 |

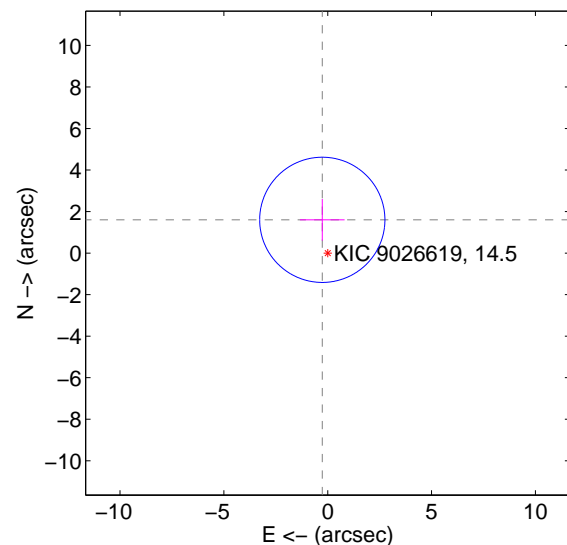
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

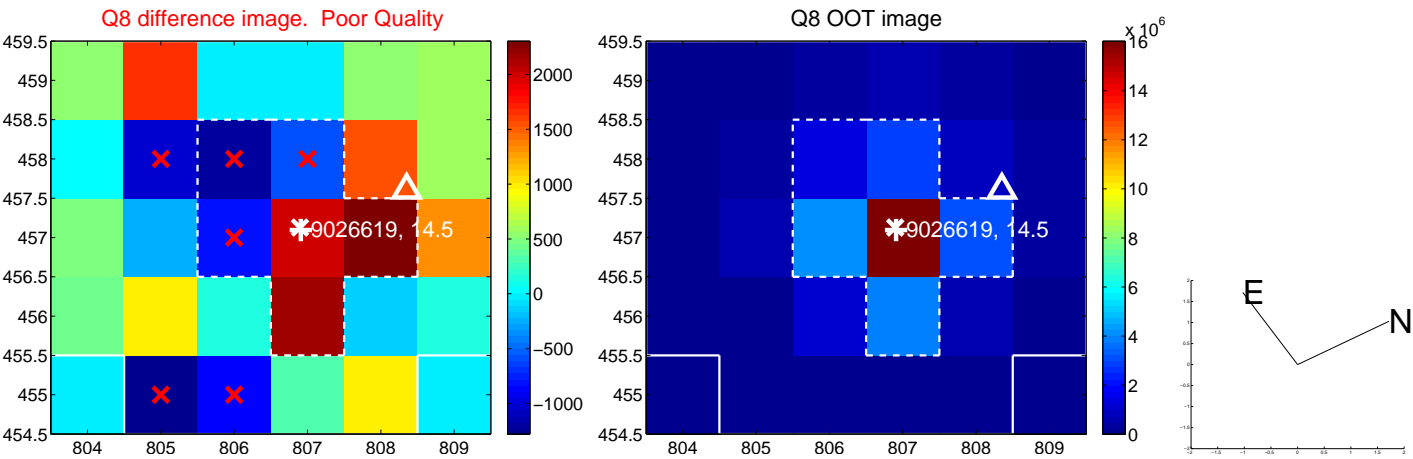
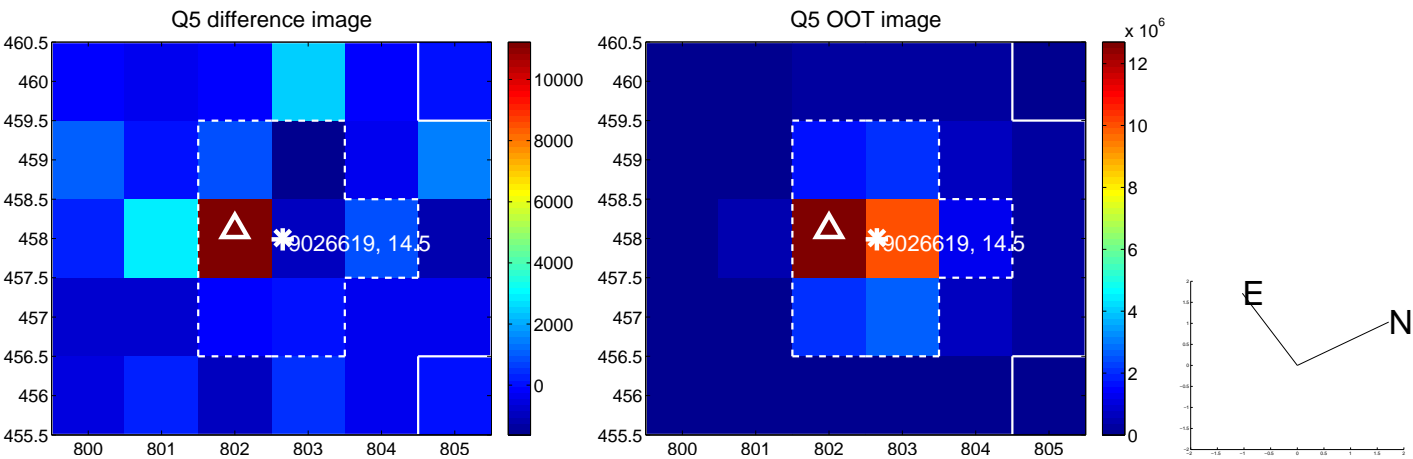


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



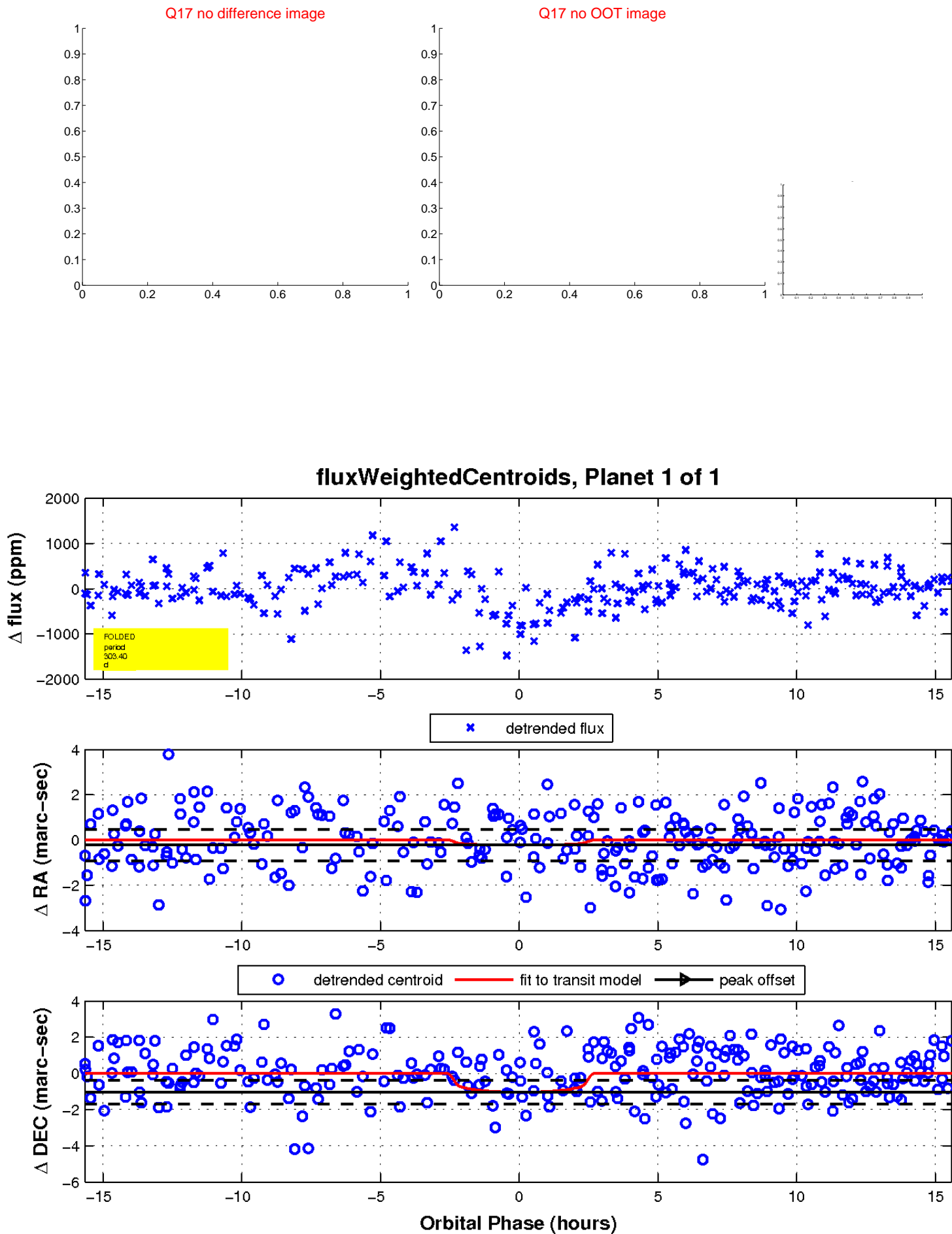
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

